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Abstract:

Global scale land cover mapping and monitoring by radar remote sensing

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This study is part of the Global Rain Forest Mapping (GRFM) project initiated by the Japanese Space Agency (NASDA) in collaboration with NASA-Jet Propulsion Laboratory and the Joint Research Center of the European Community (JRC). The objective of this project is to investigate the potential of high resolution spaceborne radar remote sensing imagery for continental scale mapping and monitoring of tropical forest regions. Twin mosaics composed of over 3500 L-band (JERS-1 satellite) radar images covering the entire Central Africa were constructed. A Tree classification algorithm was applied on the mosaics to obtain landcover maps of Central African countries.

This method also performs an automated analysis of cover characteristics. The resulting land cover maps are presented. Moreover, results using JERS-1 (L-band) and ERS-1 (C-band) data are also presented. The complementarity of the 2 data sets allowed for distinction of classes such as low-mangroves vs high mangroves and swamps vs flooded forests. The land cover maps have a very large range of potential applications. The limitations and the potential applications are discussed.